

Paper ID	Track ID	Track Name	Paper Title	Date & Time (EDT)
1380	2.1	DC- DC Converters	Partial Soft-Switching Operation of Parallel Buck-Type Semi-Bridge Switching Cells with Coupled Inductors	Monday, 6/14/2021 1:00 PM
1153	2.2		High Density Hybrid Switched Capacitor Converter for Data-Center Application	
1763	2.2		A 48-to-12 V Cascaded Resonant Switched-Capacitor Converter Achieving 4068 W/in ³ Power Density and 99.0% Peak Efficiency	
1718	2.2		Efficiency-Optimized Current-Source Resonant Converter for USB-C Power Delivery	
1434	2.3		A 93.7% Efficient 400A 48V-1V Merged-Two-Stage Hybrid Switched-Capacitor Converter with 24V Virtual Intermediate Bus and Coupled Inductors	
1760	2.3		A High Performance 48-to-6 V Multi-Resonant Cascaded Series-Parallel (CaSP) Switched-Capacitor Converter	
1637	1.1	AC-DC Converters	An Impedance Control Network Based Single-Stage Universal-Input Isolated AC-DC Converter Utilizing Reconfigurable Inverters	Monday, 6/14/2021 4:00 PM
1187	1.2		Operation Analysis of GaN-Based MHz ZVS Bridgeless Dual SEPIC PFC	
1198	1.2		Modeling and Control of Cascaded Bridgeless Multilevel Rectifier Under Unbalanced Load Conditions	
1612	1.2		A Single-Phase GaN Totem-Pole PFC with Active Power Decoupling	
1151	1.5		3- Φ Bidirectional Buck-Boost Sinusoidal Input Current Three-Level SiC Y-Rectifier	
1359	3.1	Power Electronics for Utility Interface	Design and Hardware Implementation of the Peak Current Mode Switching Cycle Control for Voltage Balancing of Modular Multilevel Converters	Monday, 6/14/2021 5:00 PM
1344	3.3		Design and Operation of Bi-Directional Hybrid Circuit Breaker Based on Transient Commutation Current Injection	
1237	3.4		Grid Forming Energy Router: A Utility Interface for Renewable Energy Sources and Energy Storage Grid Integration Applications	
1569	3.6		Suppression of Device Voltage Stress from Ground Leakage Current for Soft-Switching Solid-State Transformer	
1681	3.6		CLLLC Dual Active Bridge with Novel Insulation Approach for SST Applications	
1578	3.8		An Integrated LLCL Filter with Accelerated Balancing and Harmonic Attenuation for Single-Phase Converter	
1044	5.2	Devices and Components	Short-Circuit Capability Demonstrated for GaN Power Switches	Monday, 6/14/2021 8:00 PM
1553	5.2		Robustness of Cascode GaN HEMTs Under Repetitive Overvoltage and Surge Energy Stresses	
1168	5.3		Online Monitoring of Degradation Sensitive Electrical Parameters in Inverter Operation for SiC-MOSFETs	
1378	5.3		Switching Characteristics of a 1.2 kV, 50 m Ω SiC Monolithic Bidirectional Field Effect Transistor (BiDFET) with Integrated JBS Diodes	
1538	5.3		Noise Immunity of Desat Protection Circuitry for High Voltage SiC MOSFETs with High dv/dt	
1676	5.3		Performance Evaluation of 10 kV SiC Current Switch Based PWM Current Source Inverter for 4.16 kV Motor Drive Applications	
1143	12.3	Power Electronics Applications	Comparative Analysis of Data Driven Fault Detection Using Wavelet and Fourier Transform for DC Pulsed Power Load in the All-Electric Ship	Monday, 6/14/2021 10:30 PM
1264	12.3		Analysis of a Soft Switched, Low Power and High Gain Capacitor Charger	
1473	12.3		A High-Power-Density High-Efficiency Single-Phase Universal-Input to 28V Isolated AC-DC Converter Designed to Meet MIL-STD EMI Specifications	
1656	12.4		Direct Torque Control of 3 \times 5 Matrix Converter Fed Five-Phase IM Drive Using Virtual Vector Concept	
1723	12.4		Power Factor Correction Using Asymmetrical Modulation for Flexible Induction Heating Appliances	
1758	12.6		Implementation of a P&O MPPT Algorithm in Low-Milliwatt-Scale Energy Harvesting Wireless Sensor Nodes	
1566	6.1	Power Electronis Integration and Manufacturing	A 1.2 kV 400A SiC-MOSFET Based 3L-TNPC Power Module with Improved Hybrid Packaging Method for High-Density Applications	Wednesday, 6/16/2021 4:00 PM
1468	6.2		Optimization of Electric-Field Grading Plates in a PCB-Integrated Bus Bar for a High-Density 10 kV SiC MOSFET Power Module	
1111	6.3		Robustness Assessment of the EMI Filter in a Three-Level Inverter	
1332	6.4		Safety Considerations for Evaluating Medium-Voltage Power Electronics	
1448	7.1	Modeling and Simulation	Development of a Converter-Based Data Center Power Emulator	Wednesday, 6/16/2021 5:00 PM
1020	7.2		An RED Hybrid Model for SoC Tracking, Runtime Prediction and Transient Response Description	
1513	7.2		Optimization Algorithms for Dynamic Tuning of Wide Bandgap Semiconductor Device Models	
1601	7.2		A High Accuracy Characterization Method of Busbar Parasitic Capacitance for Three-Level Converters Based on Vector Network Analyzer	
1482	7.3		Parasitic Inductances Extraction for SiC Power Modules Using an Enhanced Two-Port S-Parameter Approach	
1557	7.3		Analysis and Mitigation of Self-Sustained Turn-Off Oscillations in SiC JFET Supercascode Circuits	

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1617	10.1	Renewable Energy Systems	A New Fully Soft-Switched, Single-Stage LLC Resonant Based Grid Connected Inverter	Thursday, 6/17/2021 10:00 AM
1496	10.2		A Two-Level MPPT Algorithm in Dynamic Partial Shading Condition Using Ripple Correlation Control	
1331	10.5		Unified Virtual Oscillator Control for Synchronization Under Ultra-Weak Grid Conditions	
1594	10.5		Multisampling Control of Two-Cell Interleaved Three-Phase Grid-Connected Converters	
1214	10.7		Parameter Estimator-Based Power Control Strategy of Microgrid Considering Nonlinear Inductor	
1364	10.7		A Fully ZVS Dual-Active-Bridge Based Three-Port Converter with High Integration	
1068	11.2	Transportation Power Electronics	A New PFC CCM Boost Rectifier with Extended Gain and Reduced Voltage Switching for 1-ph/3-pH Universal Input On-Board Charger for Electric Vehicles	Thursday, 6/17/2021 10:00 AM
1082	11.2		Predictive Control Based Battery Power Sharing for Four-Wheel Drive Electric Vehicle	
1293	11.2		DC Link Capacitor Sizing for 240°-Clamped Space Vector PWM for EV Traction Inverters	
1753	11.2		Single-Stage EV On-Board Charger with Single- and Three-Phase Grid Compatibility	
1388	11.3		Design of Partial-Discharge-Free Busbar for More-Electric Aircraft Application with Low Pressure Condition	
1613	11.4		A Current-Fed Three-Port DC/DC Converter for Integration of On-Board Charger and Auxiliary Power Module in Electric Vehicles	
1431	9.1	Wireless Power Transfer	A Load-Independent Domino IPT System with π -Type Compensation Network	Thursday, 6/17/2021 1:00 PM
1556	9.1		High-Frequency, Mid-Range Wireless Power Transfer System Using Critical Coupling Coefficient Adjustment	
1563	9.1		Analysis of Magnetic Field Emissions and Shield Requirements for Interoperating High-Power EV Wireless Charging System	
1626	9.1		Minimizing the Rebar Impact on Power Dissipation in Dynamic Wireless Power Transfer Systems	
1664	9.1		A Large Air-Gap Multi-MHz Capacitive Wireless Power Transfer System Using Compact Charging Pads	
1690	9.1		A Highly-Efficient and Cost-Effective Reconfigurable IPT Topology for Constant-Current and Constant-Voltage Battery Charging	
1286	8.1	Control	Phase-Shedding Control Scheme for Wide Voltage Range Operation of Extended-Duty-Ratio Boost Converter	Thursday, 6/17/2021 4:00 PM
1372	8.1		Stabilizing DPWM Current Mode Cascaded DC-DC Converters in DC Nano-Grid Without Clock Sharing	
1425	8.1		An Arbitrary Waveform Generator Based on an Eight-Level Flying-Capacitor Multilevel Converter	
1565	8.1		A Novel Decentralized PWM Interleaving Technique for Ripple Minimization in Series-Stacked DC-DC Converters	
1704	8.1		Direct Control of Capacitors Voltage Using Backstepping Technique for Bidirectional Compact Multilevel Converters	
1119	8.5		A 20MHz-Transformer-Based Isolated Gate Driver for 3.3kV SiC MOSFETs	
1349	13.2	Magnetics	Design and Implementation of a Stepped Air-Gap Inductor for Buck Converters	Thursday, 6/17/2021 5:00 PM
1611	13.3		Design and Optimization of the High Frequency Transformer for 100kW CLLC Converter	
1767	13.3		Tiny Wafer Level Chip Scale Packaged Inductive Components for High Frequency Isolated/Non-Isolated DC-DC Converters	
1218	13.5		Modeling Current Distribution Within Conductors and Between Parallel Conductors in High Frequency Transformers	
1317	13.5		Magnetic Component Design for Split Duty Cycle Coupled Multi-Phase Boost-Buck Converter	
1555	13.5		Modeling and Design of Vertical Multiphase Coupled Inductors with Inductance Dual Model	
1734	13.5	Modeling and Design of a Medium Frequency Transformer with High Isolation and High Power-Density	Thursday, 6/17/2021 10:30 PM	
1536	4.1	Motor Drives and Inverters		Modeling and Design of a 6-Phase Ultra-High-Speed Machine for ELF/VLF Wireless Communication Transmitter
1547	4.2			DC-Ripple-Energy Adaptive-Minimization (DREAM) Modulation Scheme for a High Power Density Inverter
1430	4.3			High-Bandwidth High-CMRR Current Measurement for a 4.8MHz Multi-Level GaN Inverter AC Power Source
1014	4.5			Model Predictive Control of a Four-Level T-NNPC Inverter Without Weighting Factors
1310	4.5			A Three-Phase 450 kVA SiC-MOSFET Based Inverter with High Efficiency and High Power Density by Using 3L-TNPC
1622	4.5		Six-Phase Three-Level Neutral Point Clamped Inverter for Capacitor Voltage Balancing and Common-Mode Voltage Cancellation	